Improving the robustness of ISB watermarking techniques by repetition of the embedding

Abstract

Digital watermarking is a direct embedding of additional information into the original content or host image, this study is overcome the problems existing in the classic LSB method by adapting the method to intermediate significant bits (ISB), which improve the robustness and maintain the quality of the image. Enhancing the proposed method has been done by repeating the watermark data certain number of times (3, 5, 7, and 9 times) in order to improve the robustness of the watermarking technique, correspondingly, a majority criterion is used in the watermark detecting procedure, which makes the algorithm more robust, especially to the geometric transform attacks.